

1 7. The method of claim 1 in which the action comprises
2 altering the projection of the 3D space to indicate motion to
3 the user.

1 8. The method of claim 1 in which the action comprises
2 altering the projection of the 3D space to indicate to the
3 user a change in viewpoint in the 3D space along a circular
4 path, the center of which is on an axis perpendicular to the
5 2D surface at the position of the indicator.

1 9. The method of claim 1 in which the display comprises
2 rendered topographic elements that orient the user's
3 perception of the 3D space.

1 10. A method comprising:
2 rendering a first view of a 3D space from a first
3 reference point, the 3D space comprising objects, a 2D
4 surface, and a first indicator on the 2D surface;
5 detecting a user's control of a second indicator
6 that is moveable in the first view; and
7 rendering a second view of the 3D space as a
8 function of the user's control of the second indicator.

1 11. The method of claim 10 in which movement of the
2 second indicator in the first view is coupled to movement of
3 the first indicator on the 2D surface.

1 12. The method of claim 11 in which the first indicator
2 is located at a predetermined position in the first view, and
3 the second view restores the first indicator to the
4 predetermined position.

1 13. The method of claim 10 in which the second indicator
2 specifies a selected point in the first view of the 3D space
3 and the second view relocates the first indicator to a
4 position on the 2D surface that is associated with the
5 selected point.

1 14. The method of claim 13 in which the position
2 associated with the selected point is on the 2D surface and is
3 intersected by a line normal to the 2D surface through the
4 selected point.

1 15. The method of claim 10 or 14 in which the second
2 view is from a second reference point that is closer to the
3 first indicator than the first reference point.

1 16. The method of claim 10 in which the second view is
2 from the first reference point.

1 17. A method comprising:

2 displaying a projection of a 3D space that
3 comprises a 2D surface, a user-selected object, and an
4 indicator positioned on the surface at a position associated
5 with the user-selected object, the projection simulating a
6 user's perspective from a first viewpoint;

7 receiving a directional cue from the user with
8 respect to the indicator;

9 determining a second viewpoint based on the
10 directional cue;

11 displaying a sequence of projections of the 3D
12 space and a projection of the second viewpoint, the sequence
13 simulating motion from the first viewpoint to the second
14 viewpoint.

1 18. The method of claim 17 in which the indicator is
2 positioned near or at a point on the surface through which an
3 axis normal to the surface intersects the user-selected
4 object.

1 19. The method of claim 17 in which the motion comprises
2 motion that circumnavigates the user-selected object.

1 20. The method of claim 17 or 19 in which the second
2 viewpoint includes the user-selected object.

1 21. The method of claim 17 or 19 in which the second
2 viewpoint includes the user-selected object at the same
3 relative position in the projection of the second viewpoint as
4 the position of the user-selected object in the projection of
5 the first viewpoint.

1 22. A system comprising:
2 a display unit that displays a rendering of a 3D
3 space that comprises a 2D surface that appears to be oblique
4 to the display unit;
5 a memory unit that stores information about objects
6 located in the 3D coordinate space and a user's viewpoint;
7 a user interface configured to receive user controls
8 for moving an indicator on the 2D surface; and
9 a processor configured to
10 compute a rendering of the 3D space from the
11 stored information;
12 couple the user controls to movement of the
13 indicator; and
14 trigger a process based on location of the
15 indicator.

1 23. The method of claim 22 in which the process comprises
2 computing a second rendering of the 3D space, the second
3 rendering restoring the indicator to a preferred position
4 relative to display unit.

1 24. The method of claim 23 in which the process comprises
2 selecting an object in the 3D space that is located near an
3 axis that is normal to the 2D surface and that intersects the
4 indicator.

1 25. An article comprising a machine-readable medium
2 that stores machine-executable instructions, the instructions
3 causing a machine to:

4 render a first projection of a 3D space from a first
5 viewpoint, the space comprising objects, a 2D surface, and a
6 first indicator located on the 2D surface;

7 detect a user's control of a second indicator that is
8 moveable in the first projection; and

9 render a second projection of the 3D space as a function
10 of the user's control of the second indicator.

1 26. The article of claim 25 in which movement of the
2 first indicator on the 2D surface is coupled to the user's
3 control of the second indicator.

1 27. The article of claim 26 in which the first indicator
2 is located a preferred position relative to the frame of the
3 first projection, and the second view restores first indicator
4 to the preferred position.

1 28. The article of claim 25 in which second projection
2 enhances representation of an object located near a line that

3 intersects the first indicator and is perpendicular to the 2D
4 surface.

1 29. The article of claim 25 in which the user's control
2 of the second indicator specifies a selected object from the
3 objects in the space, and the second projection comprises the
4 first indicator located on the 2D surface at a position
5 associated with the selected object.

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